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NETWORK SERVICES

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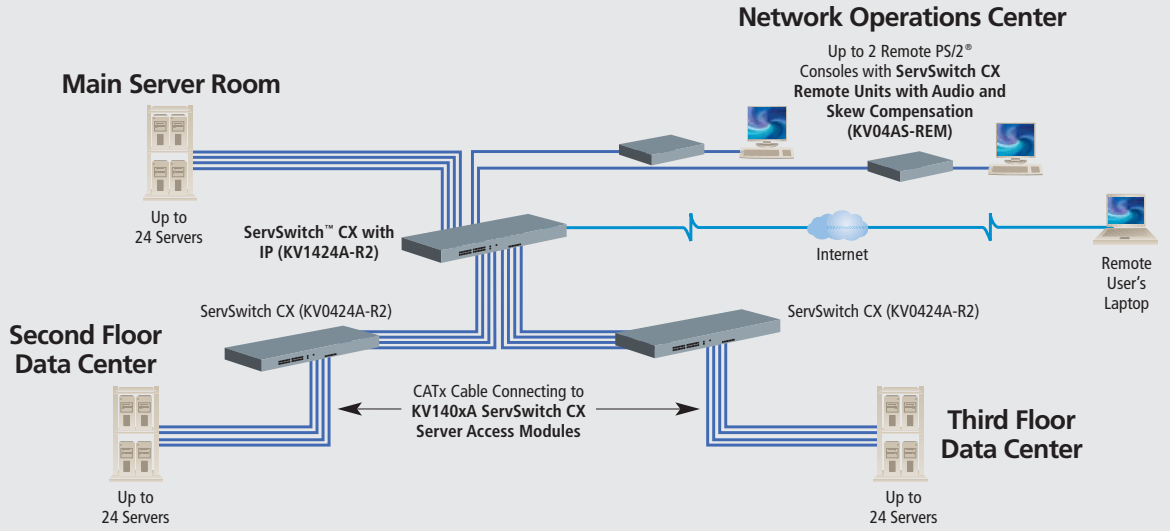
ServSwitch CX with IP

One remote user and up to three local users can access this 16- or 24-port multiplatform CATx KVM switch.

FEATURES

- Connect remotely using real VNC client software or Java Web browser.
- 1600 x 1200 remote resolution with scalable windows.
- Supports DDC emulation.
- Remote users can connect to a KVM switch using ServSwitch CX Remote Units.
- Easily switch between computers locally by hotkeys, the on-screen display, or a mouse.
- Both the ServSwitch CX with IP and the SAMs are flash upgradable.
- Connect over IP using enterprise-grade security including AES 128-bit encryption and RGA 2048-bit public key authentication.
- Simplify cabling with CAT5, CAT5e, or CAT6 UTP cable.
- Supports PC, Macintosh, and Sun.
- Connect traditional PS/2 or newer USB keyboards and mice.
- Order SAMs with optional audio to hear audio prompts from servers.
- Cascade switches to control up to 128 servers.

The ServSwitch CX with IP is great for small and mid-size data centers. Access and switch remotely between servers via the Internet!


Network Operations Center
Up to 2 Remote PS/2® Consoles with ServSwitch CX Remote Units with Audio and Skew Compensation (KV04AS-REM)
Main Server Room
Up to 24 Servers
ServSwitch™ CX with IP (KV1424A-R2)
Internet
Remote User's Laptop
ServSwitch CX (KV0424A-R2)
ServSwitch CX (KV0424A-R2)
Second Floor Data Center
CATx Cable Connecting to KV140xA ServSwitch CX Server Access Modules
Third Floor Data Center
Up to 24 Servers
Up to 24 Servers

OVERVIEW

The ServSwitch™ CX with IP may just be our most versatile ServSwitch ever—it has all the features you're looking for to help manage your enterprise network. Like the ServSwitch CX, this model is compatible with all major computer platforms and connects via lightweight, inexpensive twisted-pair cable. But the ServSwitch CX with IP also enables you to access servers across any IP network—even the Internet.

Reaches as far as your network.

Access and switch remotely between servers over a private intranet or over the Internet. All you need is a Java™ enabled Web browser. Password security keeps out unauthorized users.

It's secure, too.

Although the ServSwitch CX with IP can be installed behind the security of your network firewall, it also has the robust security features it needs to be safe on its own. Sophisticated 128-bit public/private key protection locks the switch tight against unauthorized access. Two-tier password protection—administrative and non-administrative—adds another layer of protection. You can also restrict client IP addresses, limit access to dialup connections only, or use non-standard port numbers to further confound would-be hackers.

Easier connections than ever!

There are no bulky KVM cables to deal with. Connect both user stations and servers via lightweight and inexpensive CAT5, CAT5e, or CAT6 UTP cable.

UTP cable provides more distance than KVM cable—you can connect two user stations up to 984.2 feet (300 m) from the switch. This extra distance makes it practical to set up duplicate workstations within your building—in your server room, in your office, wherever it's convenient for you.

The servers connect with UTP cable, too. At the server end, a Server Access Module (SAM) provides keyboard, video, mouse, and speaker connections. Servers may be placed up to 164 feet (50 m) from the switch.

Multiplatform operation.

You can mix and match different kinds of servers—PC, Mac®, and Sun®—on the same CX switch! Simply choose the appropriate SAM for each server and you're set!

What's more, you can connect the ServSwitch CX to either a PS/2® or USB (including Macintosh®) keyboard and mouse—it includes both connector types!

Get a clear picture.

The ServSwitch CX with IP features effective software-based skew compensation to eliminate the annoying video

color drift that can sometimes happen on long UTP cable runs. To learn more about skew compensation, see "Technically Speaking" **below**.

In addition, the switch supports Display Data Channel (DDC) emulation. It enables your monitor to communicate with the attached CPUs' video cards and configure the CPUs' video drivers automatically at bootup.

Maximize your control.

Although each ServSwitch™ CX with IP supports up to 16 or 24 directly connected servers, this is by no means the limit—you can daisychain switches to control up to 128 host servers. You can cascade up to three levels deep with servers situated at any level within the cascade tree.

Simple server selection.

Whether you're working at a user station or the local analog console port in the server room, you can select a server to access and control via on-screen menus or hotkeys. On-screen menus make server selection simple because you can give each server a name that makes sense to you.

Sight and sound support.

The ServSwitch CX with IP provides super-sharp resolutions up to 1900 x 1440 for all users up to 164 feet (50 m) away. And up to 984.2 feet (300 m) away, the CX displays 1024 x 1280 video resolution. By choosing a SAM with audio, you add support for stereo speakers, enabling you to hear audible alerts.

Take charge with your power.

The ServSwitch CX with IP has a power control port that enables a remote user to reset one or more power switches in the host system. Plus, dual power connectors enable the CX to draw power from its included wallmount adapter or from an optional redundant power supply if there's a power failure.

Ready right now—and for the future.

The switch comes complete with rackmounting hardware to install the switch in any open 1U of rack space in your server room. It can also be flash upgraded, so it's practically obsolescence-proof.

Technically Speaking

UTP cable and color drift.

UTP cable is often used with video or KVM extenders to extend the reach of a video signal. It's popular for this application because it's lightweight, easy to handle, and inexpensive. But when you transmit video over long stretches of twisted-pair cable, you sometimes run into a phenomenon called color drift or color split.

Color drift shows up as that annoying colored shadow you occasionally see around objects on a video screen. It sometimes happens with UTP cable because the pairs of wire in the cable are twisted at slightly different rates to reduce crosstalk between pairs. Because of these differences between wire pairs, video signals for different colors often travel different distances before they reach the remote receiver. When one color signal arrives behind the others because its wire is longer, you get that red, green, or blue shadow around the objects on your video screen.

UTP cable varies widely by manufacturer, so before installing video extenders, it's difficult to determine whether or not you're going to have a color drift problem. You're more likely to experience color drift with higher grades (CAT5e or CAT6) of cable, on longer cable runs, and on high-resolution screens.

If you experience color drift, there are several possible solutions. You can use a shorter length of cable, switch from CAT5e or CAT6 cable to CAT5 cable, use a lower screen resolution, or use a video skew compensator.

A video skew compensator removes color drift by delaying some color signals to compensate for differences in wire pairs.

KV1416A-R2

TECH SPECS

Distance (Maximum) — User side: 984.2 ft. (300 m);
Server side: 164 ft. (50 m)
Resolution (Maximum) — 1900 x 1440 at 164 ft. (50 m)
CE Approval — Yes
Connectors —
KV1416A-R2, KV1424A-R2:
Local analog console port:
Monitor: (1) HD15 F;
Keyboard and mouse: PS/2: (2) 6-pin mini DIN F; USB: (2) Type A F;
User ports: (2) RJ-45;
Servers: (16) or (24) RJ-45;
Audio: (1) 3.5-mm jack;
Serial RS-232 (DTE): (1) DB9 F;
Power control: (1) DB9 M;
Power input: (1) IEC 320 M; (1) barrel F for optional redundant power supply;
Modem: (1) DB9 M;
IP: (1) RJ-45 10-/100-Mbps Ethernet, autosensing;
KV1400A: (1) RJ-45, (2) 6-pin mini DIN M, (1) HD15 M;
KV1402A: (1) RJ-45, (2) 6-pin mini DIN M, (1) HD15 M, (1) 3.5-mm plug;
KV1401A: (1) RJ-45, (1) USB Type A M, (1) HD15 M;
KV1403A: (1) RJ-45, (1) USB Type A M, (1) HD15 M, (1) 3.5-mm plug;
KV1404A: (1) RJ-45, (1) 8-pin mini DIN M, (1) HD15 M, (1) 3.5-mm plug
Power — 100–240 VAC, 50–60 Hz, autosensing
Size — KV1416A-R2, KV1424A-R2: 1.75"H (1U) x 19"W x 11"D (4.4 x 48.3 x 27.9 cm)

Item	Code
ServSwitch™ CX with IP	
(1) Analog Console Port + (1) IP User Port + (2) Remote User Ports	
(16) Servers	**KV1416A-R2**
(24) Servers	**KV1424A-R2**
For each server connection, you need…	
ServSwitch CX Server Access Modules	
PS/2®	**KV1400A**
with Audio	**KV1402A**
USB	**KV1401A**
with Audio	**KV1403A**
Sun® with Audio	**KV1404A**
To connect a remote PS/2 console to the ServSwitch CX with IP using CATx cable, order…	
ServSwitch CX Remote Units	
Basic	**KV04-REM**
with Audio	**KV04A-REM**
with Audio and Skew Compensation	**KV04AS-REM**

Why Buy From Black Box? Exceptional Value. Exceptional Tech Support. Period.

Recognize any of these situations?

- **You wait more than 30 minutes to get through to a vendor's tech support.**
- **The so-called "tech" can't help you or gives you the wrong answer.**
- **You don't have a purchase order number and the tech refuses to help you.**
- **It's 9 p. m. and you need help, but your vendor's tech support line is closed.**

According to a survey by Data Communications magazine, 90% of network managers surveyed say that getting the technical support they need is extremely important when choosing a vendor. But even though network managers pay anywhere from 10 to 20% of their overall purchase price for a basic service and support contract, the technical support and service they receive falls far short of their expectations—and certainly isn't worth what they paid.

At Black Box, we guarantee the best value and the best support. You can even consult our Technical Support Experts before you buy if you need help selecting just the right component for your application.

Don't waste time and money—call Black Box today.